

REMARKS

This responds to the Office Action mailed on April 20, 2004.

No claims are amended cancelled or added; as a result, claims 1-16 remain pending in this application.

Regarding the Drawings

Applicant believes that the drawings as amended illustrate the elements of the pending claims discussed in the Office Action, and so has not amended the drawings. Figure 6 shows at 601 a module to adjust the voltage, and at 602 a module operable to sense a current. Converter 601 represents a hardware module, and Figures 7 and 8 describe methods as may be performed in software to practice the present invention.

Applicant points out that these drawings were previously filed in response to these same objections.

Regarding the Specification

Figure 6 is supported by the specification of the application as filed, as it was introduced for the primary purpose of illustrating elements of claims 9 and 10 in response to objections previously raised and as repeated above. Claim 9 recites “A DC-DC converter” shown at 601 of Figure 6, “a module operable to sense a current drawn from the DC-DC converter” 602, and claim 10 recites “wherein adjusting the voltage in response to the sensed current is performed via hardware” element 603.

Objection to the Amendments

The Examiner objected to the amendments filed on June 17, 2002 and January 24, 2002 under 35 U.S.C. 132 because they introduced new matter into the disclosure.

Applicant respectfully submits that no filing was made on June 17, 2002 or on January 24, 2002. Applicant replied to a notice of noncompliant amendment on June 6, 2002, by simply repeating relevant portions of an amendment and response filed November 30, 2001. Applicant assumes that the material filed November 30, 2001, is the material in question.

As described above, Figure 6 was not presented on the Applicant's own initiative, but was in response to an objection that elements of certain claims such as 9 and 10 were not shown in the drawings. Applicant therefore introduced claim 6, which only shows these relevant elements, including claim 9's recitation of "A DC-DC converter" show at 601 of Figure 6, "a module operable to sense a current drawn from the DC-DC converter" 602, and claim 10's recitation of "wherein adjusting the voltage in response to the sensed current is performed via hardware" element 603.

Applicant therefore submits that because he was required to introduce this drawing showing these elements that are clearly present in the claims, these elements are supported by the claims that originally disclosed these elements.

§112 Rejection of the Claims

Claims 1-16 were rejected under 35 USC § 112, first paragraph, as failing to comply with the enablement requirement.

Applicant submits that the questions raised in the present Office Action, such as sensing an output current, are very well-known in the art. Further, examples are provided, such as on p. 7, ln. 27-30, which describes using a current sense resistor to sense output current. This section even goes on to explain application of Ohm's law, wherein the current is converted to a voltage drop across the current sense resistor of a known value and measured as a voltage.

Applicant further submits that adding voltages, sensing current through reading voltage across a resistor using Ohm's law, and other such basic electronic functions are very well-known in the art, and are disclosed in many books on basic electricity and electronics, including as one example, *Horowitz and Hill, The Art of Electronics* (2nd ed, 1989, Cambridge University Press).

§102 Rejection of the Claims

Claims 1-16 were rejected under 35 USC § 102(e) as being anticipated by Hua et al. (U.S. 5,999,433) or Buono (U.S. 5,949,222).

Anticipation under 35 U.S.C §102 requires the disclosure in a single prior art reference of each element of the claim under consideration (*In re Dillon* 919 F.2d 688, 16 USPQ2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991)).

The rejection failed to point out specifically how the various elements of the pending claims are supposed to be anticipated by these references, except to state that both references show DC to DC converters that sense current and adjust voltage. The Examiner has failed to show in any Office Action how either the Hsu or Buono references cited contain any specific elements corresponding to claimed elements of the present invention. More specifically, the Examiner has failed to show that the adjusting element or module of the pending claims that indicates a voltage is at a minimum current voltage level when the current drawn is at a minimum but nonzero load current level (*see, e.g.*, claim 1).

Claims 1-16 were also rejected under 35 USC § 102(e) as being anticipated by Yang et al. (U.S. 6,130,526).

The Examiner has again failed to show in any office action how the cited Yang contain any specific elements corresponding to claimed elements of the present invention. More specifically, the Examiner has again failed to show that the adjusting element or module of the pending claims that indicates a voltage is at a minimum current voltage level when the current drawn is at a minimum but nonzero load current level.

RESPONSE UNDER 37 C.F.R. 1.116 – EXPEDITED PROCEDURE

Serial Number: 09/476219

Filing Date: December 30, 1999

Title: NON-LINEAR ADAPTIVE VOLTAGE POSITIONING FOR DC-DC CONVERTERS

Assignee: Intel Corporation

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Dkt: 884.182US1 (INTEL)

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 349-9581 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 21 day of May 2004.

Anne M. Richards

Name

Signature

